

Health and Safety Plan

**Ecology Review Draft
Health and Safety Plan
UST Installation at Seafarers' Memorial Park
Cap Sante Boat Haven Fuel Dock
Former Scott Paper Company Mill Site
Anacortes, Washington**

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Prepared for

**Port of Anacortes
Anacortes, Washington**

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C-1	Human Health Information for Chemicals of Concern
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LIST OF ATTACHMENTS

<u>Attachment</u>	<u>Title</u>
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1	Emergency Information and Route to Hospital Map
2	Certification
3	Modification Form
4	OSHA Construction Equipment Safety Requirements

Site Health and Safety Plan Summary

Site Name: Port of Anacortes, Former Scott Paper Company Mill Site

Location: Anacortes, Washington

Client: Port of Anacortes

Proposed Dates of Activities: Summer to Fall of 2005

Type of Facility: Park

Land Use of Area Surrounding Facility: Commercial, industrial, and marine

Site Activities: Soil removal and excavation dewatering activities associated with installation of two 15,000-gallon underground storage tanks (USTs) for the new fuel dock at the Cap Sante Boat Haven in Anacortes, Washington. The new USTs will be located just west of the existing Park Building at Seafarers' Memorial Park, which is within the Uplands area of the northern portion of the former Scott Paper Company mill site.

Potential Site Contaminants: Soil: Lead (Pb), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), diesel-range and/or motor oil-range petroleum hydrocarbons. Extracted groundwater: Arsenic (As), bis(2-ethylhexyl)phthalate, 4-methylphenol, ammonia, and hydrogen sulfide.

Routes of Entry: Skin contact with soil or groundwater, incidental ingestion of soil or water; and inhalation of airborne droplets, dusts, or vapors.

Protective Measures: Protective clothing (including hardhat, steel toed boots, safety glasses, gloves, coveralls); (stand-by) air purifying respirators; dust control; and vapor monitoring.

Monitoring Equipment: Photoionization detector (PID).
LEL 4 gas meter.

1.0 INTRODUCTION

This site-specific health and safety plan (HSP) addresses procedures to minimize the risk of chemical exposures, physical accidents to onsite workers, and environmental contamination associated with soil removal and excavation dewatering activities during installation of two 15,000-gallon underground storage tanks (USTs) for the new fuel dock at the Cap Sante Boat Haven.

1.1 PURPOSE AND REGULATORY COMPLIANCE

The HSP covers each of the required elements as specified in 29 CFR 1910.120 or equivalent Washington State Department of Labor and Industries regulations. When combined with the Landau Associates Health and Safety Program, this site-specific plan meets all applicable regulatory requirements.

This HSP will be made available to all Landau Associates' personnel and subcontractors involved in field work on this project. For prime contractor and subcontractors, this HSP represents minimum safety procedures. The prime contractor and subcontractors are responsible for their own safety while present onsite or conducting work for this project, and their work may involve construction safety and health procedures not addressed in the HSP. This HSP has been reviewed by the Landau Associates' Corporate Health and Safety Officer. By signing the documentation form provided with this plan (Attachment 2), project workers also certify their agreement to comply with the plan. Both Landau Associates and its subcontractors are independently responsible for the health and safety of their own employees on the project.

1.2 CHAIN OF COMMAND

The Landau Associates chain of command for health and safety on this project involves the following individuals:

- **Landau Associates Project Manager: Kris Hendrickson**

The Project Manager has overall responsibility for the successful outcome of the project. The Project Manager, in consultation with the contracted Certified Industrial Hygienist or Corporate Health and Safety (H&S) Manager, makes final decisions regarding questions concerning the implementation of the site HSP.

- **Landau Associates Task Manager(s): David Pischer, Joe Kalmar and other staff**

The Task Manager has day-to-day responsibility for the successful outcome of this project and if so designated by the Project Manager, may make decisions regarding implementation of this HSP.

- **Landau Associates Project Health & Safety Coordinator: Staff personnel to be identified prior to field activities**

As the Project Health & Safety Coordinator, this individual is responsible for implementing the HSP in the field as appropriate for the specific activity being conducted. This person will assure that: proper protective equipment is available for Landau Associates' employees and is used in the correct manner; decontamination activities are carried out properly; and that employees have knowledge of the local emergency medical system. The Project Health & Safety Coordinator also informs subcontractors of the minimum requirements of this plan.

- **Landau Associates Corporate H&S Manager: Tim Syverson**

The Landau Associates Corporate H&S Manager has overall responsibility for preparation and modification of this HSP. In the event that health and safety issues arise during site operations, the H&S Manager will attempt to resolve them in discussion with the appropriate members of the project team.

- **Project Team Members**

Project team members are responsible for understanding the H&S requirements for this project, and implementing these procedures in the field. Team members will receive technical guidance from the Project H&S Coordinator.

In instances where this HSP is adopted by others, the chain of command and the associated responsibilities identified throughout this HSP refers to the applicable health and safety representatives within the subject organization, not Landau Associates personnel.

1.3 SITE WORK ACTIVITIES

This HSP covers soil removal, excavation dewatering, and backfilling activities associated with installation of two 15,000-gallon USTs for the new fuel dock at the Cap Sante Boat Haven. The new USTs will be located just west of the existing Park Building at Seafarers' Memorial Park, which is within the Uplands area of the northern portion of the former Scott Paper Company mill site. The field activities associated with the interim action UST installation project include:

- Excavation, temporary stockpiling, loading, and offsite disposal of contaminated soil and wood debris removed from the excavation for the UST and associated fuel supply pipelines (the excavations may be shored with temporary sheet piling or may be conducted as open excavations)
- Excavation dewatering and pretreatment of extracted water prior to discharge to the sanitary sewer system, including treated water sampling
- Installation of a concrete vault for UST containment and associated excavation backfilling
- Installation of fuel supply pipelines in shallow trenches excavated between the USTs and the new fuel dock

- Site restoration.

1.4 SITE DESCRIPTION

The site currently includes Seafarers' Memorial Park, an office campus, and traffic related to each of these. The Cap Sante Boat Haven and associated marina facilities are located just north of the Park. Refer to the text of the Interim Action Work Plan for additional information regarding the site and the planned interim action activities.

2.0 HAZARD EVALUATION AND CONTROL MEASURES

2.1 TOXICITY OF CHEMICALS OF CONCERN

Based on the results of the Uplands Area remedial investigation (RI), contaminants that may be present in Parcel 3 soil at concentrations above preliminary cleanup levels include metals (lead), carcinogenic polycyclic aromatic hydrocarbons, diesel-range and/or motor oil-range petroleum hydrocarbons. Based on the Uplands Area groundwater investigations, 4-methylphenol may be present in groundwater in the project vicinity at concentrations above the preliminary cleanup level based on protection of marine surface water. Arsenic, bis(2-ethylhexyl)phthalate, and ammonia have been detected in groundwater at concentrations exceeding preliminary screening levels protective of marine surface water, but not at locations near the project. Hydrogen sulfide may also be present at the site.

Human health hazards of these chemicals are summarized in Table C-1. The information provided in this table covers potential toxic effects that might occur if relatively significant acute and/or chronic exposure occurred. However, this information does not indicate that such effects are likely to occur from the planned site activities. The chemicals that may be encountered at this site are not expected to be present at concentrations that could cause significant health hazards from short-term exposures. The types of planned work activities and use of monitoring procedures and protective measures will further limit potential exposures at this site.

Health standards are presented using the following abbreviations:

- PEL – Permissible exposure limit
- TWA – Time-weighted average exposure limit for any 8-hour work shift
- STEL – Short-term exposure limit expressed as a 15-minute time-weighted average and not to be exceeded at any time during a work day.

2.2 POTENTIAL EXPOSURE ROUTES

2.2.1 INHALATION

Inhalation of dusts generated during soil excavation and material handling activities could be an issue if the weather is dry, windy, or warm. Exposure via this route could potentially occur if chemicals are present in the soil being excavated and dust particles become airborne during site activities or if hydrogen sulfide is liberated when the material is exposed to air during excavation. Air monitoring will be performed during excavation and soil handling activities, as described in Section 3.2.

2.2.2 SKIN CONTACT

Exposure via dermal contact could occur if contaminated soil or groundwater contacts the skin or clothing. Protective clothing and decontamination activities specified in this plan will minimize the potential for skin contact with the contaminants.

2.2.3 INGESTION

Exposure via this route could occur if individuals eat, drink, or perform other hand-to-mouth contact in the contaminated (exclusion) zones. Decontamination procedures established in this plan will minimize the inadvertent ingestion of contaminants.

2.3 HEAT STRESS AND HYPOTHERMIA

2.3.1 HEAT STRESS

Use of impermeable clothing reduces the cooling ability of the body due to evaporation reduction. This may lead to heat stress. If such conditions occur during site activities, appropriate work-rest cycles will be utilized and water or electrolyte-rich fluids (Gatorade or equivalent) will be made available to minimize heat stress effects.

Also, when ambient temperatures exceed 70°F, monitoring of employee pulse rates will be conducted. Each employee will check his or her pulse rate at the beginning of each break period. Take the pulse at the wrist for 6 seconds, and multiply by 10. If the pulse rate exceeds 110 beats per minute, then reduce the length of the next work period by one-third.

Example: After a 1-hour work period at 80°F, a worker has a pulse rate of 120 beats per minute. The worker must shorten the next work period by one-third, resulting in a work period of 40 minutes until the next break.

2.3.2 HYPOTHERMIA

Hypothermia can result from abnormal cooling of the core body temperature. It is caused by exposure to a cold environment and wind-chill. Wetness or water immersion can also play a significant role.

Typical warning signs of hypothermia include fatigue, weakness, lack of coordination, apathy, and drowsiness. A confused state is a key symptom of hypothermia. Shivering and pallor are usually absent, and the face may appear puffy and pink. Body temperatures below 90°F require immediate treatment to restore temperature to normal.

Current medical practice recommends slow re-warming as treatment for hypothermia, followed by professional medical care. This can be accomplished by moving the person into a sheltered area and wrapping with blankets in a warm room. In emergency situations, where body temperature falls below 90°F and heated shelter is not available, use a sleeping bag, blankets, and body heat from another individual to help restore normal body temperature.

2.4 OTHER PHYSICAL HAZARDS

2.4.1 SLIPS/FALLS

As with all field work sites, caution will be exercised to prevent slips on wet surfaces, stepping on sharp objects, etc. Work will not be performed on elevated platforms without fall protection. Recognize and avoid areas with low traction (e.g., muddy areas or slick metal surfaces), ground surface obstructions, or unguarded areas elevated above ground surface.

2.4.2 HEAVY EQUIPMENT AND MACHINERY

The earthwork equipment may be equipped with various winches, motors, booms, and other machines. These present a general physical hazard from moving parts. Personnel will stand clear of machinery at all times unless specific instructions are given by the equipment operator or other person in authority. Steel-toed shoes or boots will be worn at all times when on the site. When possible, appropriate guards will be in place during equipment use.

Lifting equipment may also present a physical hazard. Field personnel should be careful to keep loose clothing, hands, and feet away from winches and capstones.

2.4.3 CONFINED SPACES

Confined space entry is not anticipated for this project. Appropriate equipment will be provided by the contractor for personnel who must enter the UST excavation. Personnel will not enter any confined space without specific approval of the Project Manager and Corporate H&S Manager.

2.4.4 NOISE

Appropriate hearing protection (ear muffs or ear plugs with a noise reduction rating of at least 20 dBA) will be used if individuals work near high-noise generating equipment (> 85 dBA). Determination of the need for hearing protection will be made by the Project H&S Coordinator.